



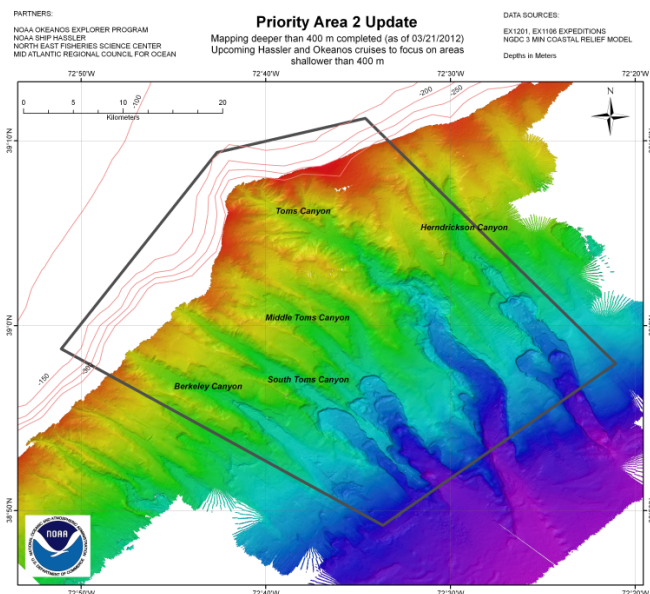
Three NOAA ships are directly involved with ACUMEN. In addition to cruises on *Hassler*, *Bigelow*, and *Okeanos Explorer*, a joint NOAA-BOEM expedition on the NOAA Ship *Nancy Foster* will conduct complementary science operations on deepwater canyons further south.

**OVERVIEW** – Between February and August 2012, a team of NOAA and external partners will conduct a mapping ‘blitz’ focused on deepwater canyons off the northeastern seaboard. In preparation for this series of Atlantic Canyons Undersea Mapping Expeditions (ACUMEN), the team worked with NOAA and non-NOAA partners to identify priority frontier areas along the continental shelf and slope. In total, five expeditions will gather baseline information to support science and management needs. The expeditions will highlight the complementary capabilities of three NOAA ships: *Okeanos Explorer*, *Ferdinand R. Hassler*, and *Henry B. Bigelow*.

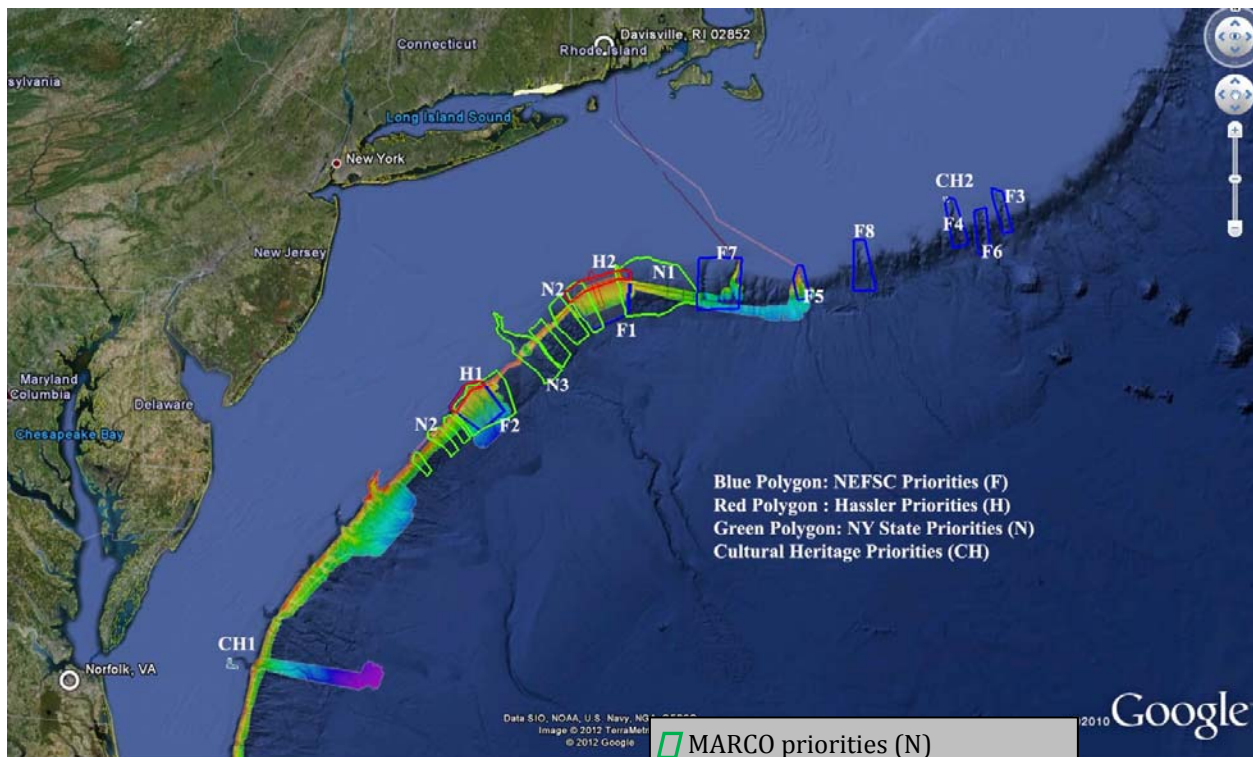
**WHY CANYONS?** - The shelf break and slope off the northeastern US support a diversity of habitats including more than 70 canyons ranging from depths of ~100m to ~3500m. Many scientists and managers believe the canyons provide a refuge for a variety of fauna including species of corals, fish and other animals. While some canyons have been studied previously, most are poorly known and are of high interest to federal and state agencies with research and management responsibilities.

**GOALS** – NOAA priorities for ACUMEN include a combination of science, education, outreach, and data management objectives.

- Initiate field efforts to support the NOAA Habitat Blueprint northeast regional initiative;
- Support NOAA Integrated Ocean and Coastal Mapping efforts;
- Capitalize on the complementary capabilities of NOAA assets to produce an integrated, coherent dataset;
- Leverage the Sea Grant network to identify key constituents and education opportunities;
- Work with state and regional constituents to identify and map priority deepwater canyons;
- Share data and products across platforms to guide and refine expedition plans in near real-time;
- Ground-truth mapping data and locate deep-sea coral and sponge communities;
- Provide a foundation of publicly accessible data and information products to spur further exploration, research, and management activities; and



Scientists and managers identified this five canyon area as the 2<sup>nd</sup> highest geographic priority. The map displays bathymetry collected during the first ACUMEN cruise. *Hassler* will complete the area in June with high resolution coverage of the canyon heads.



Google Earth map showing general priorities and planned areas for high resolution mapping by *Hassler*, overlaid on existing bathymetry acquired by NOAA Ship *Okeanos Explorer*. 'F1' is NEFSC's highest mapping priority. 'N1' is MARCO's highest priority. Planned areas for high resolution mapping by *Hassler* are overlaid in red. NOAA Ship *Digester* will use a towed camera system to ground-truth areas mapped by the other ships. A joint NOAA-BOEM project on the *Nancy Foster* will conduct a complementary ROV investigation on canyons to the south of ACUMEN during the summer of 2012. (Actual mapping and sensor coverage achieved may differ from plan due to weather conditions, technical issues, and real-time data analysis and reprioritization.)

- Engage a broad spectrum of the scientific community and public in NOAA activities.

#### GENERAL OUTLINE -

- FEB 14 – FEB 23: *Okeanos Explorer* (Davisville, RI – Norfolk, VA)
- MAY 29 – JUN 13: *Okeanos Explorer* (Norfolk, VA – Davisville, RI)
- JUN 20 - JUN 28: *Ferdinand R. Hassler* (Baltimore, MD - Alexandria, VA)
- JUL 03 - JUL18: *Henry B. Bigelow* with *TowCam* (Newport, RI – Newport, RI)
- JUL 28 – AUG 03: *Okeanos Explorer* (Morehead City, NC – Davisville, RI)

**NOAA Partners** – OAR – Office of Ocean Exploration and Research; NOS – Office of Coast Survey; NMFS – Northeast Fisheries Science Center and Office of Habitat Conservation; OMAO – NOAA Ships *Okeanos Explorer*, *Ferdinand R. Hassler*, *Henry B. Bigelow*; NESDIS-National Coastal Data Development Center

**External Partners** – Virginia Sea Grant; Mid-Atlantic Regional Council on the Ocean; Virginia Coastal Zone Management Program; Woods Hole Oceanographic Institution; and Cooperative Institute for the North Atlantic Region

**FOR MORE INFORMATION** - Key 2012 ACUMEN project contacts are:

OAR - Jeremy Potter – [jeremy.potter@noaa.gov](mailto:jeremy.potter@noaa.gov)  
 NMFS – Martha Nizinski – [martha.nizinski@noaa.gov](mailto:martha.nizinski@noaa.gov)  
 NOS – LCDR Marc Moser – [marc.s.moser@noaa.gov](mailto:marc.s.moser@noaa.gov)  
 OMAO – CDR Michael Silah – [michael.silah@noaa.gov](mailto:michael.silah@noaa.gov)

NESDIS – Sharon Mesick – [sharon.mesick@noaa.gov](mailto:sharon.mesick@noaa.gov)  
Virginia Sea Grant – Troy Hartley – [thartley@vims.edu](mailto:thartley@vims.edu)